REMARKS

Claims 1 to 20 were pending in this application prior to entry of the above amendments. Claims 1, 3, 10, 13, and 17 are amended, and claims 2, 6, 7, and 18 were cancelled and replaced by new claims 21 to 24. Allowance of the amended claims is requested in view of these remarks.

This invention relates to the synthesis of glycosylated indolocarbazoles of biomedical use. It must be stressed that this is a process case. As set out in the summary of the invention section of the specification, in Dr. Wood's 10 June 2002 declaration, and in the introduction to his 1995 *Jour. Amer. Chem. Soc.* Paper (117: 10413-10414 and its spectral addenda), the full text of which was filed as a provisional (Ser. No. 60/002,164, filed 11 August 1995) from which priority is claimed for this application, the claimed invention is a new, carbenoid-mediated synthesis of furanosylated indolocarbazoles, which differs from earlier suggested cycloaromatization, double nitrene C-H insertion, nitrene C-H insertion, and maleimide reduction schemes employed to prepare the same compounds.

At the outset, the undersigned thanks the Examiner for her courtesy in a telephone conversation on 9 July 2002, after the Advisory Action dated 3 July 2002 was mailed. In that conversation, the Examiner maintained her position that Applicants' 1995 *J.A.C.S.* paper was prior art to the pending claims, including claims to the synthesis of K252a particularly pointed out in claims 8, 11, and 19, even though that synthesis was fully disclosed in the paper and in the provisional and subsequent filings. Applicants most emphatically do not agree with this position, but have filed an R.C.E. presenting claim amendments that should obviate her objections, to avoid further argument on this point and advance the application to allowance.

Claims 1, 3, 10, 13, and 17 were amended to dispense with the structures depicting R groups defined in a way that seemed to trouble the Examiner of this divisional. As Dr. Wood explained in his above-mentioned Declaration, and in a Declaration filed 10 August 1998 in the file wrapper of parent case U.S. Ser. No. 08/817,230, filed 4 June 1997, a generalized R group description such as the one he drafted was crafted to help describe compounds prepared to those skilled in the art. But words will suffice. The alkaloid chemistry disclosed in the application is a very circumscribed, sophisticated field of organic chemistry, and the level of skill is correspondingly high. What is necessary for the practice of the invention is instructions for preparation of the compounds following the carbenoid-mediated approach disclosed using standard chemical techniques. The synthesis was fully disclosed in the paper, the provisional, and this application and its parents.

The limitations of claim 2 were added to claim 1, to provide information about the conditions under which the condensation most efficiently takes place, so claim 2 was cancelled. Claims 6, 7, and 18 were cancelled as no longer relevant, and replaced by new claims 21 to 24, which point out certain limitations of their respective parent claims 1, 3, and 17, providing reaction conditions used in some preferred embodiments embodiments.

Applicants submit that these amendments and remarks put this application in condition for allowance, and request early and favorable consideration. If the undersigned can advance the prosecution of this application in any way, the Examiner is invited to call at the number listed below.

Respectfully submitted,

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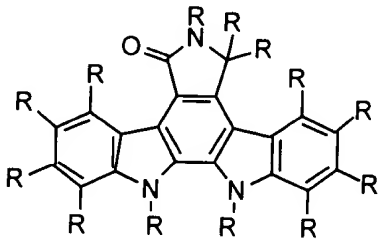
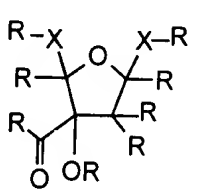
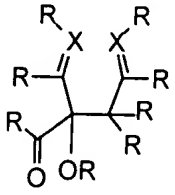
Marked Up Version of Amendments Required by 37 C.F.R. Section 1.121

1 (Twice Amended). A process for the preparation of furanosylated indolocarbazoles by reacting an indolocarbazole [of the formula

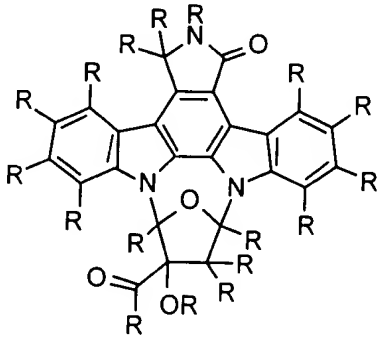


with] <u>with</u> an acetal [selected from the group consisting of the formulae





and mixtures thereof,] <u>under conditions that promote acetal exchange or formation</u> to produce a glycosylated product [of the formula



wherein R is selected from the group consisting of

a) a C_{3-10} branched or unbranched alkyl, optionally partially or fully halogenated, hydroxy, C_{1-3} alkyloxy, carboxy, amino, alkylamino, including Me, CH_2OH, and CO_2 Me;

b) an aryl optionally substituted with one to five groups consisting of halo, hydroxy, C_{1-3} alkyloxy, including Bn, DMB, and PMB;

c) a hydrogen;

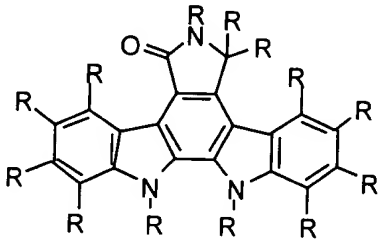
d) a halogen; and

e) mixtures of any of these, and
wherein X is S and/or O].

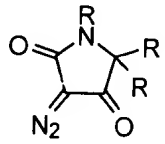
3 (Amended). A process according to claim [2] 1 wherein said preparation is carried out in the presence of a Bronstead acid or a Lewis acid.

10 (Amended). A product according to the process of claim [6] 2.

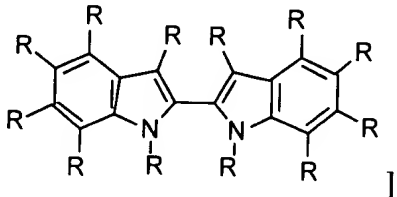
13 (Amended). A process according to claim 1 wherein the indolocarbazole [of the formula



is] is prepared by reacting a diazo compound [of the formula



with] with a biindole [of the formula



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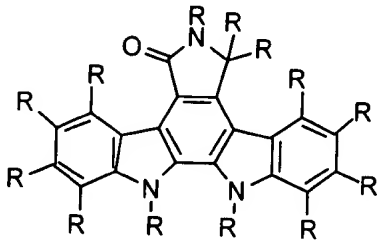
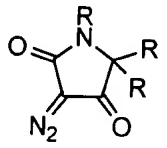
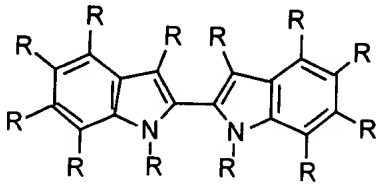
17 (Twice Amended). A process for the preparation of furanosylated indolocarbazoles by reacting an indolocarbazole [of the formula



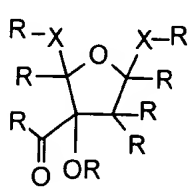
by] by reacting a diazo compound [of the formula

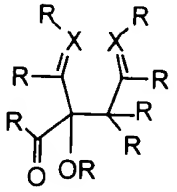


with] with a biindole [of the formula

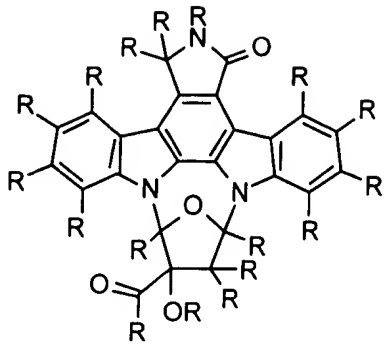


in] in the presence of a transition metal catalyst in a solvent capable of solvating the reactants, and then reacting the indolocarbazole with an acetal [selected from the group consisting of the formulae





and mixtures thereof,] in the presence of a Bronsted acid or a Lewis acid to produce a glycosylated product [of the formula



wherein R is selected from the group consisting of a $C_{3\text{-}10}$ branched or unbranched alkyl, including Me optionally partially or fully halogenated; an hydroxy; a $C_{1\text{-}3}$ alkyloxy, including CO_2Me; a carboxy; an amino; an alkylamino; a hydrogen; a halogen; Bn; DMB ; PMB; and mixtures of any of these, and wherein X is O and/or S].